

# Vessel Mooring Study - Boca Chica Harbor - Monroe County, Florida

## Final Project Report



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## **Executive Summary**

A survey to document the extent and nature of vessel mooring in Boca Chica Harbor, Monroe County, Florida was conducted from March 2010 through December 2010. The study area included a portion of Boca Chica Harbor located between Boca Chica Key and Stock Island, south of Highway U.S. 1. The project was conducted on behalf of the Monroe County Marine Resources Office in support of Monroe County's efforts to manage marine resources and boating impacts throughout the Florida Keys.

Surveys were conducted quarterly in March, June, September and December, 2010. Data collected on each vessel included vessel location (GPS coordinates), vessel identification, vessel type, vessel use, water depth at vessel, and type of mooring device used to secure the vessel. A reference photo of each vessel was taken unless the owner requested that photos not be taken.

A total of 314 vessels were documented throughout the survey period, and the number of vessels present during any one survey ranged between 73-83. Power boats were the most common vessel type in the survey area (44%) and sailboats were the next most common vessel type (39%). Domiciles (houseboats) and floating platforms were least abundant, comprising 10% and 7% respectively. Liveaboard vessels (47%) and stored vessels (45%) comprised the majority of vessel uses documented, and transient cruising vessels were rare (1%). Derelict vessels, either sunk or abandoned, were common and comprised 7% of all vessels documented.

A survey of the mooring devices was conducted during the first survey using snorkel gear and an underwater camera. The overwhelming majority of mooring devices in use consisted of ad-hoc devices including concrete-filled barrels, auto and marine engines, scrap metal, iron pipes driven into the seafloor, and sunk vessels. Most mooring devices were in poor condition, with twisted and fouled mooring lines. No professionally-installed moorings with shock lines or swivels were documented. Damage to benthic habitats, including seagrass meadows and hardbottom communities, was evident throughout the survey area. In one case a mooring consisted of a chain wrapped around the base of a large, live coral head.

Vessel mooring in Boca Chica Harbor can be characterized as comprising a significant liveaboard community with few transient cruising vessels present. Mooring in Boca Chica Harbor is currently un-managed, and vessel dereliction and natural resource damage are common occurrences. The shallow nature of much of the harbor and the presence of natural seagrass meadows and hardbottom habitat suggests that portions of Boca Chica Harbor may not be an ideal location for vessel mooring from a natural resource perspective. The management of vessel mooring in the Florida Keys is complex and involves not only natural resource management matters but also socio-economic and legal concerns.

## **Project Background**

The current project seeks to document the extent and nature of vessel mooring in Boca Chica Harbor, Monroe County, Florida. For the purpose of this study, Boca Chica Harbor is defined as the water body located between Boca Chica Key and Stock Island, south of Highway U.S. 1 (Figure 1). This project was conducted on behalf of the Monroe County Marine Resources Office (MCMRO) in support of Monroe County's efforts to manage boating impacts throughout the Florida Keys. The Vessel Study seeks to acquire anchoring/mooring device data, collect vessel distribution data, characterize vessel type and use, perform GIS mapping and analysis, evaluate the findings, and make preliminary recommendations for anchorage management.

### ***Monroe County Unpermitted Mooring Initiative***

The MCMRO and other resource agencies have documented a proliferation of unpermitted vessel moorings in unmanaged anchorages throughout the Keys. These unpermitted moorings are generally improperly designed, positioned or installed, resulting in benthic resource degradation or the creation of hazards to navigation. In response to this issue, the Monroe County Board of County Commissioners (BOCC) directed staff to evaluate the potential for identifying and removing unpermitted moorings, and develop measures to prevent the future placement of unpermitted moorings through education and outreach (Resolution 150-2009). One part of this effort involves the acquisition of data on anchoring and mooring devices currently utilized by vessels in Boca Chica Harbor in order to evaluate the problem, develop strategies to remove unpermitted moorings, and provide boating information regarding appropriate and legal mooring techniques.

### ***The Florida Fish and Wildlife Conservation Commission Pilot Program***

The Florida Fish and Wildlife Conservation Commission (FWC) and the Florida Department of Environmental Protection (DEP) have been directed to establish a Pilot Program to explore potential options for regulating the anchoring or mooring of non-live-aboard vessels outside the marked boundaries of public mooring fields. The FWC solicited Monroe County to consider participation in the Pilot Program in October 2009. Monroe County responded with a Letter of Interest to the FWC in November

2009 to participate in the Pilot Program and assist with data collection in areas of Monroe County including the cities of Marathon and Key West in fulfillment of the Pilot Program requirements.

In addition to collecting anchoring/mooring data adjacent to existing mooring fields the County has determined, through communications with FWC staff, that data should be collected in other areas of the Keys where the County may consider developing regulatory regimes in conjunction with the Pilot Program. The County has determined that the Boca Chica Harbor area in the Lower Keys is experiencing impacts associated with the unmanaged anchorage in that location (Resolution 078-2008), and desires to acquire anchoring/mooring data in order to provide justification and recommendations for regulatory zoning and/or additional boating infrastructure.

### ***Definitions***

The following definitions were used to determine the status of vessels in the Boca Chica vessel mooring survey:

**“Abandoned Vessel”** – A vessel that does not have an identifiable owner and that has been disposed on public property in a wrecked, inoperative, or partially dismantled condition or has no apparent intrinsic value to the rightful owner. The term also includes derelict vessels as defined.

**“Derelict Vessel”** – Any vessel that is left, stored, or abandoned:

In a wrecked, junked, or substantially dismantled condition upon any public waters of this state.

At any port in this state without the consent of the agency having jurisdiction thereof.

Docked or grounded at or beached upon the property of another without the consent of the owner of the property.

**“Live-aboard Vessel”** – Any vessel:

Used solely as a residence and not for navigation,

Represented as a place of business or a professional or other commercial enterprise, or

which a declaration of domicile has been filed pursuant to section 222.17, Florida Statutes.

**“Mooring”** – The act of securing a vessel so that it remains in a particular place by attaching it with ropes or cables to a permanently fixed object such as a dock, a wharf, a piling, the shore, or a mooring buoy. The permanently fixed object to which a vessel is secured.

**“Mooring Buoy”** – A buoy serving as a permanently installed fixed mooring point. Mooring buoys are cylindrical or spherical; they are white with a blue horizontal stripe midway between the buoy’s top and its waterline.

**“Mooring Field”** – An area of water set aside for the mooring of vessels to mooring buoys. To be a mooring field, the area of water must have delineated boundaries that are marked with permitted uniform waterway markers and must have permitted mooring buoys installed in a planned array.

**“Floating Platform”** – A vessel that is equipped with neither motor nor sail and is designed to move only by being towed or manually propelled. This term does not include vessels with missing or inoperable motors or sails. This also does not include commercially-manufactured houseboats.

**"Domicile"** - A vessel, either homemade or commercially produced, that was constructed primarily as a houseboat and does not include live-aboard sail or power boats that have been modified.

**“Stored Vessel”** – A vessel anchored or moored on waters of the state.

## Methods

The Boca Chica vessel mooring study was conducted within a defined study area located south of US 1 between Boca Chica Key and Stock Island, exclusive of the managed mooring field associated with Naval Air Station Key West (Figure 1). The study was conducted at quarterly intervals for one year starting in March, 2010, with data collection occurring on March 19 2010, June 15 2010, September 17 2010 and December 17, 2010. Vessel surveys were planned to occur in the middle of the month, as close to the 15th as was possible. Data on ground tackle and mooring devices was collected only once during the March 2010 survey.

Data was collected using a Trimble GEO-XH hand-help mapping unit and a representative photo showing vessel identification was taken for each vessel in the survey area when possible. When a vessel owner requested that a photo not be taken, the request was respected. During the initial survey, the vessel mooring was inspected by a diver and photographed. Observations on benthic damage caused by vessel moorings were also made during the in-water inspection.

Data collected for each vessel consisted of the following elements:

Parameter	Description
Date	Date of survey
Location	GPS point at vessel
Photograph	One or more photos that show identifying features of vessel
Vessel Identification	Registration numbers, documentation numbers, commercial vessel numbers and boat names when available
Vessel Type	Sail Power Domicile Floating platform
Vessel Use	Stored Transient Live-aboard Derelict (sunk/beached)
Water Depth	Depth of water beneath vessel
Mooring Type	Fixed mooring (Manta or equivalent) Homemade (debris, driven shafts/pipes) Anchor

The data collection team consisted of three persons; the survey boat operator, a GPS data logger and photographer, and a survey coordinator and data collection manager. During the initial survey in March 2010, a dedicated diver was used to inspect and photograph vessel mooring devices in addition to the three-person data collection team. Data were collected using the Trimble GEO-XH and transferred into ArcGIS 9.2 software for analysis and presentation.

Vessel location was taken at the bow at the mooring with the Trimble GEO-XH and data were entered into preprogrammed fields. One or more representative digital photographs of each vessel were taken that included the entire vessel as well as the vessel identifier. During the in-water mooring device survey, a photo of each mooring device and any associated benthic resource damage was taken using an underwater camera. Observations of unique vessel characteristics such as vessels that appear to be "improperly stored" or "at risk of becoming derelict" were recorded when appropriate.

Information on mooring type was obtained by in-water inspection of the mooring devices at all boats in the survey area during the March 2010 survey, and a reference photograph of each mooring was taken.

Mooring devices were placed in the following categories:

Mooring Type	Description
Fixed Mooring	A commercially-manufactured device affixed to the seafloor (e.g. Manta) installed specifically for mooring of vessels.
Anchor	Mooring device consisted of conventional anchor. Anchors may be commercially produced or homemade, but are portable.
Debris	Mooring device consists of a wide variety of debris including outboard motors, vehicle engine blocks, man-made concrete moorings, lawn furniture, trap rope and miscellaneous solid waste.
Beached/Grounded/Mangroves	Vessels beached on the shore, grounded in shallow water, or tied to shoreline mangroves.

## Results

### *Vessel Characteristics*

The vessels within the survey area included a wide range of vessel types, vessel uses and vessel conditions ranging from high-end transient motor sailing vessels to home-made platforms lacking propulsion (Attachment 1 - Reference Photos). Vessel types included sailboats, powerboats, houseboats and floating platforms. Vessel uses observed included transient, liveaboard, storage and dereliction.

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The following vessel types and uses were observed in the survey area:

Vessel Type	Vessel Use / Comments
Sailboat	Sailboats included all uses including transient, liveaboard and stored. Vessels spanned a wide range of condition from immaculate to dilapidated.
Powerboat	Powerboats uses included commercial fishing vessels, liveaboard vessels and vessels stored on moorings. Vessels spanned a wide range of condition from immaculate to dilapidated. A number of commercial sponge harvesting vessels were present throughout the year.
Houseboat	Only commercially manufactured houseboats were included in this category and these vessels were used as liveaboard vessels.
Floating Platform	A platform is equipped with neither motor nor sail and is designed to move only by being towed or manually propelled. Platforms in the survey area included mainly accessory structures to liveaboard vessels that were used to store personal possessions. Notable among platforms was a small, simple barge used to store a soiled mattress.

### ***Data Summary***

The total number of vessels within the survey area ranged between 73-83 vessels per quarter throughout the survey period, with an average of 78.5 vessels per survey event (Table 1-3). Power was the most abundant vessel type (N=139) followed by sail (N=122); domicile and platforms were less abundant. The number of liveaboard (N=146) and stored (N=143) vessels were approximately equal.

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Table 1. Summary data for Vessel Type, Boca Chica Vessel Mooring Survey, Annual Summary.

Vessel Type	Count	Percent
Powerboat	139	44
Sailboat	122	39
Houseboat	30	10
Floating Platform	23	7
Total	314	100

Table 2. Summary data for Vessel Use, Boca Chica Vessel Mooring Survey, Annual Summary.

Vessel Use	Count	Percent
Liveaboard	146	47
Stored	143	45
Derelict (DV)	22	7
Transient	3	1
Total	314	100

Table 3. Summary data for Vessel Use and Vessel Type, Annual Summary.

Vessel Type / Use	Quarter 1 3/19/2010	Quarter 2 6/15/2010	Quarter 3 9/17/2010	Quarter 4 12/17/2010	Totals
Liveaboard - Sail	14	18	12	19	63
Liveaboard – Power	19	13	10	15	57
Liveaboard - Domicile	5	8	7	6	26
Liveaboard – TOTAL	38	39	29	40	146
Transient – Sail	1	1	0	1	3
Transient- Power	0	0	0	0	0
Transient – TOTAL	1	1	0	1	3
Stored – Power	17	20	17	14	68
Stored – Sail	11	12	17	13	53
Stored – Floating Platform	5	4	7	6	22
Stored – TOTAL	33	36	41	33	143
Derelict – Power	7	5	3	2	17
Derelict - Domicile	1	0	0	1	2
Derelict – Sail	3	0	0	0	3
Derelict – TOTAL	11	5	3	3	22
ALL VESSELS – TOTAL	83	81	73	77	314

### ***Mooring Devices***

Mooring devices used within the survey area were assessed during the first quarter, and moorings constructed of miscellaneous debris were by far the most abundant type, comprising 89 percent of moorings sampled (Table 4). Debris moorings included a range of materials including concrete-filled barrels, auto and marine engines, sunk vessels (N=2), scrap metal and iron pipes driven into the seafloor. No professionally-installed moorings such as Manta devices with appropriate ground tackle (swivels, chafe guards) were observed in the survey area.

Table 4. Summary data for vessel mooring type collected during survey #1 on March 19, 2010.

Mooring Type	Count	Percent
Debris	74	89
Anchor	5	6
Beached/Grounded or Tied to mangroves	4	5
Totals	83	100

### ***Benthic Damage from Mooring Devices***

Damage to the seafloor and marine resources was evident throughout the survey area and in all habitat types (e.g. hardbottom, seagrass meadows) and in both deep and shallow waters (Attachment 1 - Reference Photos). The following general observations can be made from the mooring device survey:

- Benthic resource damage consisted of physical displacement of marine habitats by debris moorings as well as damage resulting from movement of the mooring device and attached mooring lines.
- Physical damage was observed to hard corals (coral heads), soft corals (sea fans, sea plumes, sea whips) hardbottom habitats and seagrass meadows.
- In general, some level of physical damage to the seafloor was observed at all debris and anchor moorings, but the extent of damage was highly variable depending on the mooring configuration and the benthic habitat the mooring was placed.
- Moorings consisting of pipes or rods driven into the seafloor exhibited the least benthic damage, while debris moorings composed of haphazard materials exhibited the greatest damage.

### ***Vessel Movement and Residency***

The data on vessel tenure within the unmanaged anchorage were analyzed on a subset of the data that included vessels with known identification. Raw data on vessels were filtered to remove storage platforms, vessels with no reliable identification, and derelict/sunk vessels (Table 5). There were a total of 95 vessels that could be assessed accurately in the mooring area over the four survey events. Of those 95 vessels, 42% (n=40) were present during all four surveys events, and 61% (n=58) were present during three or more surveys. These data indicate that a significant portion of vessels within the survey area are permanent residents.

Table 5. Vessel residency in the survey area.

<i>Number of survey events vessel was present</i>	<i>Frequency of vessels (count)</i>	<i>Percent Total</i>
1	28	30
2	12	12
3	15	16
4	40	42
TOTALS	95	100

## **Discussion**

The unmanaged anchorage at Boca Chica is composed of a roughly equal mix of stored and liveaboard vessels, with power and sail the main types of vessels present. Liveaboard vessels included a wide variety of vessels including sail, power, and domiciles. Stored vessels included vessels that were in operable condition as well as a number of vessels that appeared abandoned or potentially derelict. Many stored vessels were used to store personal belongings and were often associated with a mooring complex.

The unmanaged anchorage is primarily a working-class mooring area, few transient vessels or vessels considered "high-end" were observed during the survey. The anchorage appears to be mainly a place where local persons live or store their vessels. The anchorage supports commercial fishing vessels, and

sponge harvesting vessels appeared to comprise the majority of these fishing vessels. There was relatively little turnover in vessel occupancy, many vessels were present throughout the year-long survey period and appear to be permanently moored.

Many vessels were in poor condition, suggesting their owners had limited resources or motivation to properly maintain the vessels. Many vessels appeared to be nearly derelict, and were vulnerable to sinking or becoming adrift due to poor maintenance and moorings. Many vessel moorings are inadequate to hold vessels in the event of a storm, increasing the vulnerability of vessels in the mooring to dereliction.

The mooring devices that were used by vessels were mainly home-made moorings fashioned from a variety of debris including auto parts, outboard motors and miscellaneous metal objects. Several moorings were fashioned from 50 gallon blue plastic barrels filled with concrete. In one case a mooring was made by placing a chain around a large coral head.

The moorings occur in shallow areas of seagrass habitat as well as deeper channels with hardbottom habitat. Damage to benthic habitats resulting from the ad-hoc mooring devices included displacement of seagrass habitat through physical contact and shading and physical damage to soft and hard corals in the hardbottom areas.

Significant portions of the anchorage are ecologically-sensitive areas composed of shallow seagrass flats, deeper channels with hardbottom and well-developed hard and soft coral resources, and coastal mangrove forests. Damage to sensitive environmental resources was evident throughout the mooring survey area and to all habitat types.

## **Recommendations**

The recommendations included in this report are provided from an environmental resource protection perspective only. We acknowledge that many legal and socioeconomic issues outside the realm of environmental issues are associated with vessel mooring, however addressing policy and social issues is outside the intended scope of this project. In addition, we understand and appreciate the significant effort Monroe County and the various resource management agencies operating in the Keys have put forth towards addressing issues of vessel mooring and derelict vessels.

The following general recommendations are provided to assist Monroe County with the process of developing management options for the Boca Chica anchorage area.

### ***Protection of Shallow Seagrass Habitat***

Significant areas within Boca Chica Harbor are shallow seagrass meadows. Mooring of vessels over these shallow seagrass meadows is causing damage to these habitats. This damage occurs from shading by moored vessels, damage from mooring devices, and damage from vessel groundings and dereliction.

In general, shallow seagrass meadows are inappropriate areas for mooring of vessels. There is not enough water depth to allow adequate light penetration, resulting in shading impacts. In addition, vessels may come into contact with the seafloor, resulting in physical damage to seagrass habitats.

***Recommendation:*** Monroe County (and other marine resource management agencies) should protect shallow seagrass habitats by prohibiting long-term mooring of vessels in areas where seagrass habitat damage is anticipated.

### ***Protection of Hardbottom Habitat***

Significant areas within Boca Chica Harbor are hardbottom habitat supporting hard and soft corals and a diverse marine flora and fauna. These areas typically occur in deeper channels where exposed limerock substrate is present.

Mooring of vessels in these hardbottom habitats is causing damage to hard and soft corals and the general hardbottom habitat. This damage occurs primarily from improper mooring devices that drag and become entangled in marine life on the seafloor.

***Recommendation:*** Monroe County (and other marine resource management agencies) should protect hardbottom habitat by requiring vessels to utilize appropriate mooring devices. The use of ad-hoc mooring devices in hardbottom areas should be prohibited.

### ***Derelict Vessel Prevention***

The adverse issues associated with derelict vessels in the Florida Keys are well documented. Many vessels in the Boca Chica mooring area appear prone to dereliction, and the eventual dereliction of vessels is predictable.

Derelict vessels cause damage to seagrass meadows, hardbottom habitats and shoreline mangrove communities. This damage occurs as a result of abandoned vessels sinking or becoming embedded in shoreline mangroves, causing a direct loss of habitat. Sunk vessels are subject to movement, and damage from vessel movement can be significant.

***Recommendation:*** Monroe County (and other marine resource management agencies) should develop a program to prevent derelict vessels from accumulating in anchoring areas throughout the Keys. A program that requires vessel owners to register vessels that are anchored over publicly-owned submerged lands would assist regulatory agencies in identifying owners of vessels and documenting the status of anchored vessels. Vessels that do not have proper documentation of ownership or vessels that are deemed prone to dereliction could be addressed before they become derelict. It should be noted that Monroe County and resource management partners (e.g. FWC, NOAA/FNKMMS) are well aware of the problems associated with derelict vessels and are actively engaged in addressing the problem throughout the Keys.

### ***Pollution and Sewage***

During the vessel surveys it was apparent that the potential exists for various pollutants to enter the water from both stored and liveaboard vessels. These pollutants may include raw sewage, bilge waste and chemicals from vessel construction and maintenance. Although not specifically addressed in the surveys, it is likely that some vessels moored in Boca Chica Harbor are not using pump-out facilities for sewage.

***Recommendation:*** Monroe County (and other marine resource management agencies) should develop a program to prevent sewage and other marine pollutants from entering the waters of Boca Chica Harbor. Such a program could involve mandatory pump-out of sanitary facilities and monitoring of vessel repair and maintenance activities to ensure lubricants, paints and solvents do not enter the waters.



***Mooring Area Criteria and Managed Mooring Fields***

Monroe County should develop a specific set of criteria for mooring of vessels over publicly-owned submerged lands and use these criteria to identify areas that are suitable for long-term mooring of vessels.

Potential criteria might include:

- mooring device design;
- depth of water;
- benthic habitat type;
- location of mooring in relation to natural areas (e.g. state parks, national wildlife refuges)
- navigation issues;

Areas that are not suitable for vessel mooring based on these criteria should be protected from long-term vessel mooring through prohibitions of vessel mooring and a regulatory program that provides for enforcement. Areas that are deemed suitable for vessel mooring should be managed in some form to ensure compliance with applicable regulations regarding vessel mooring. A system of managed mooring fields throughout Monroe County located in appropriate areas and properly managed would be a desirable objective.

## *Figures*

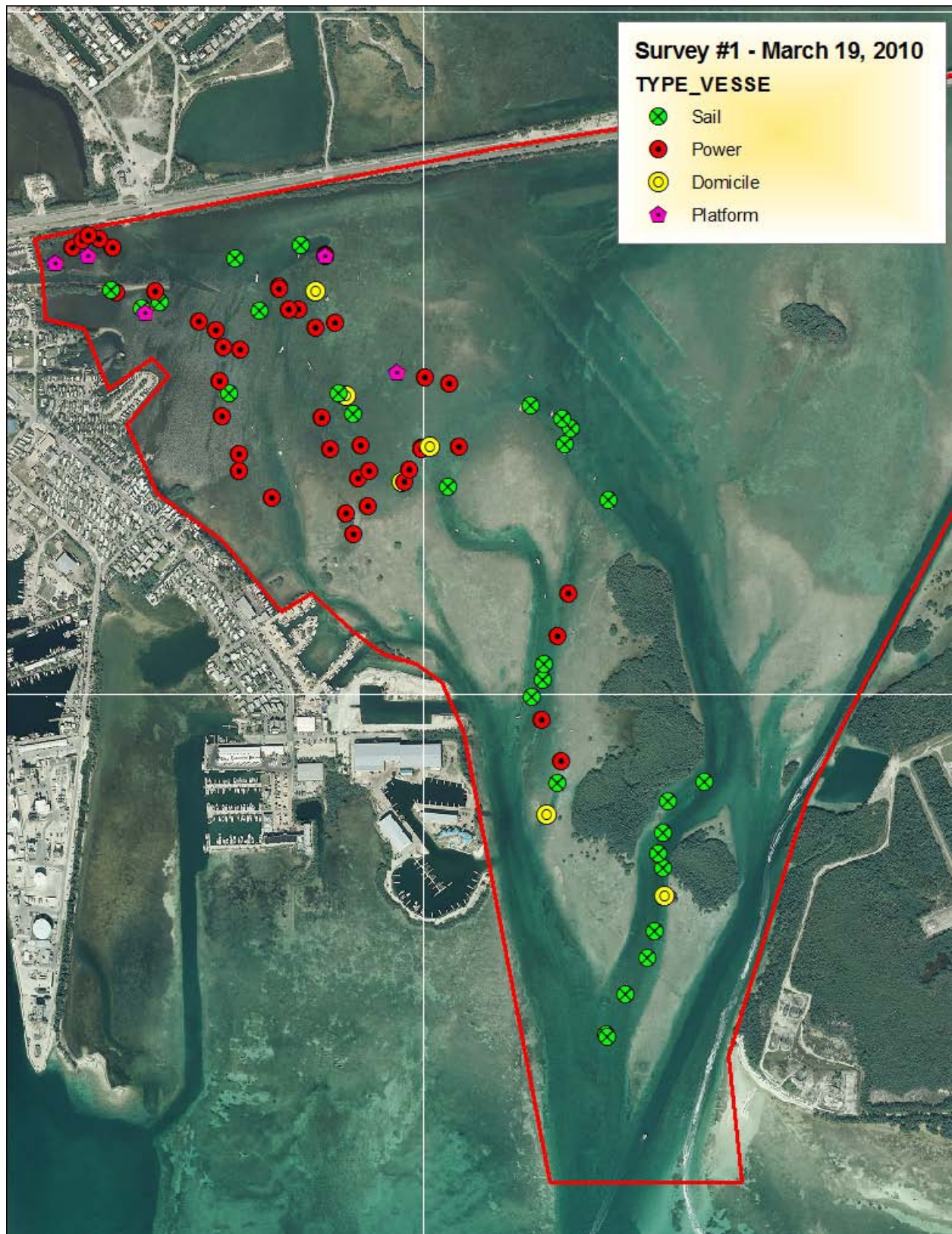


Figure 1. Vessel location and vessel type, quarterly survey #1, March 19, 2010.



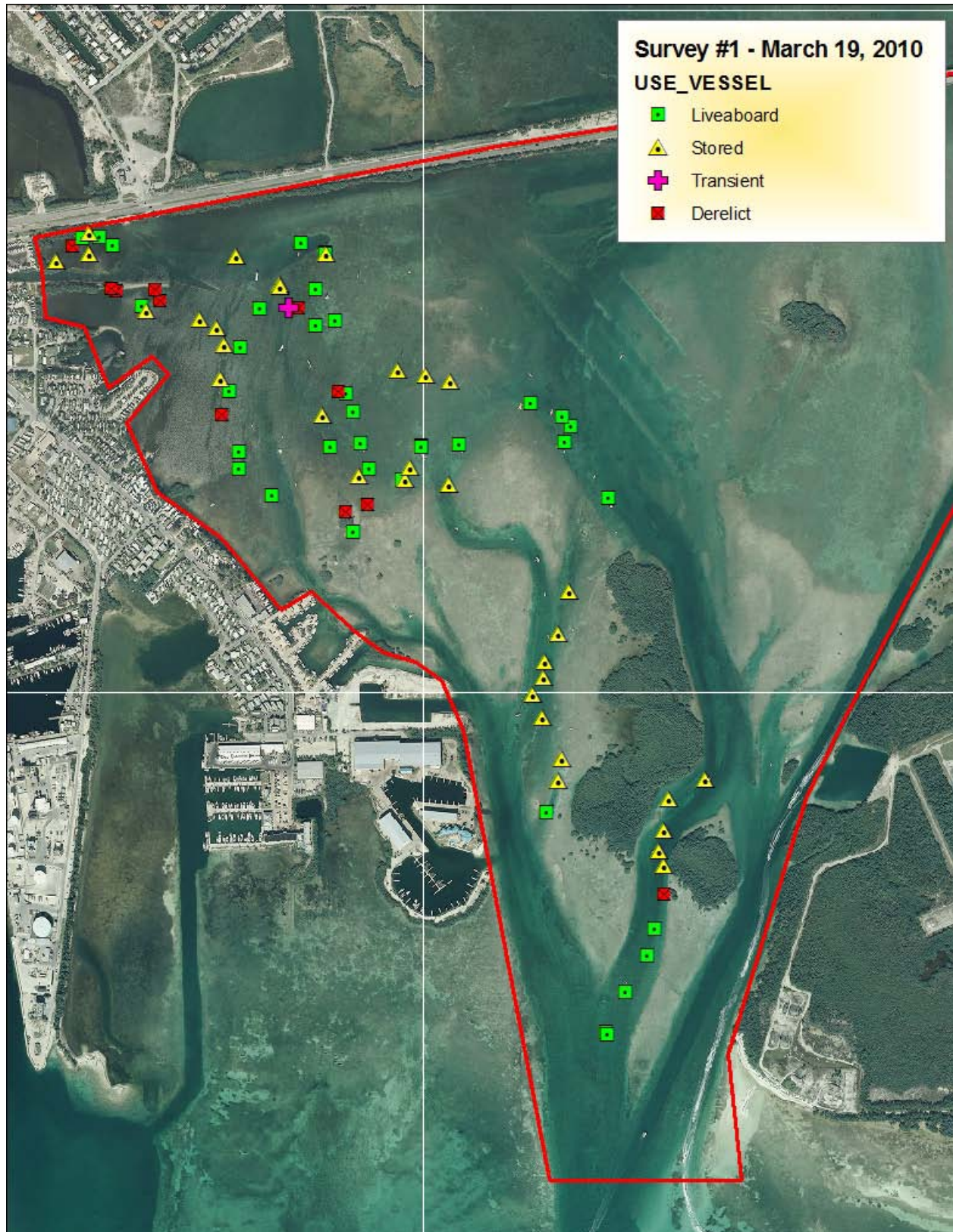


Figure 2. Vessel location and vessel use, quarterly survey #1, March 19, 2010.



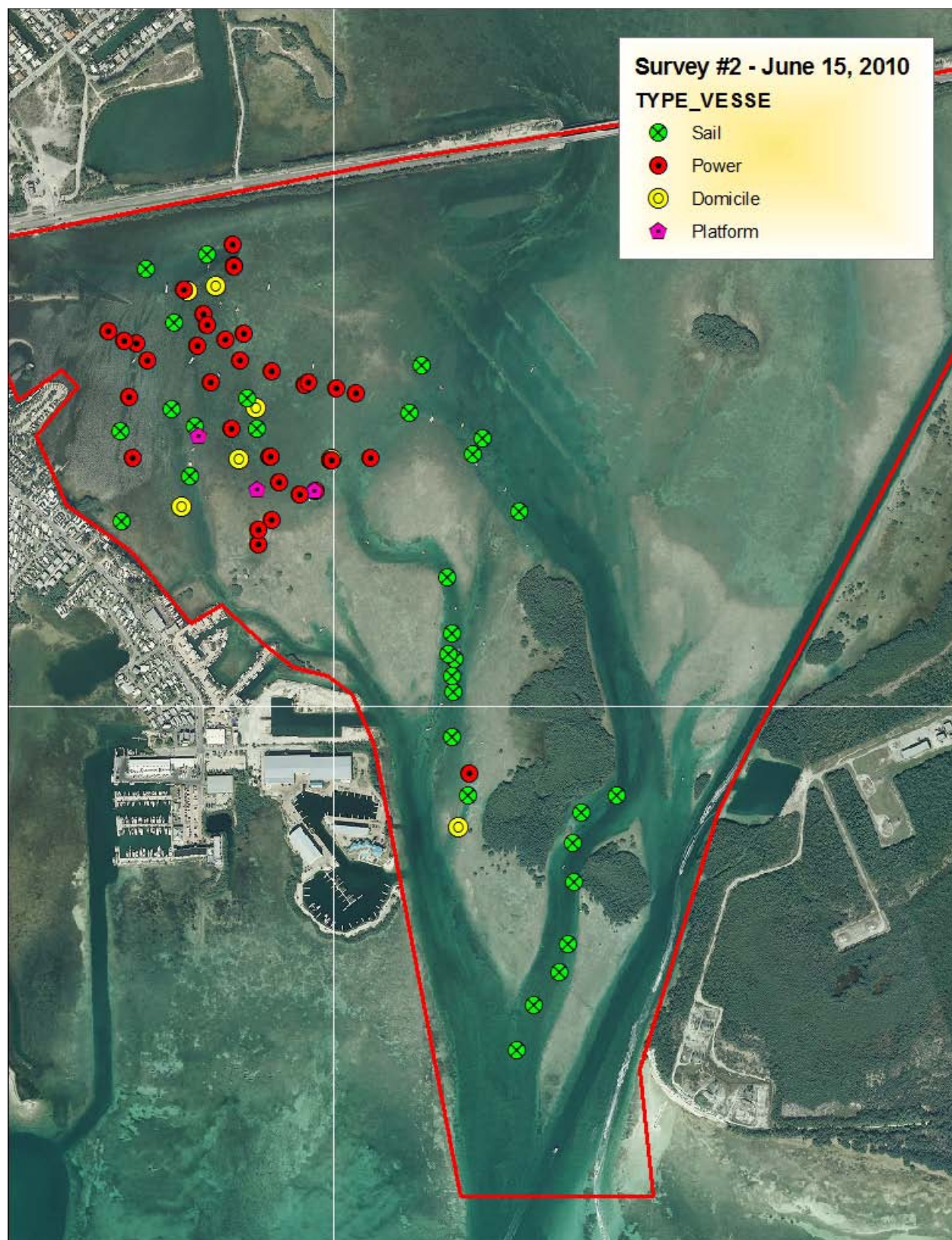


Figure 3. Vessel location and vessel type, Boca Chica Vessel Mooring Survey #2, June 15, 2010.



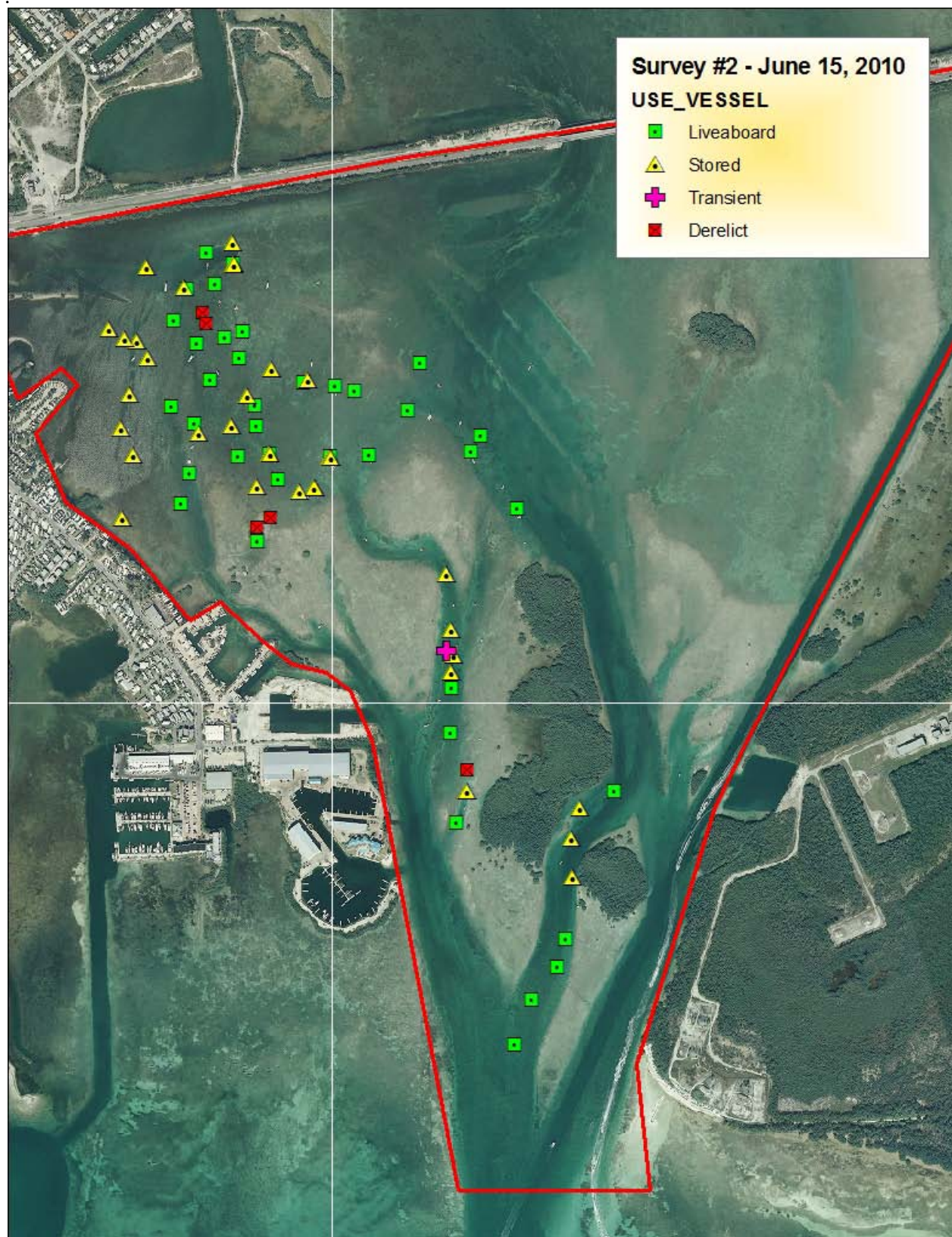


Figure 4. Vessel location and vessel use, Boca Chica Vessel Mooring Survey #2, June 15, 2010.



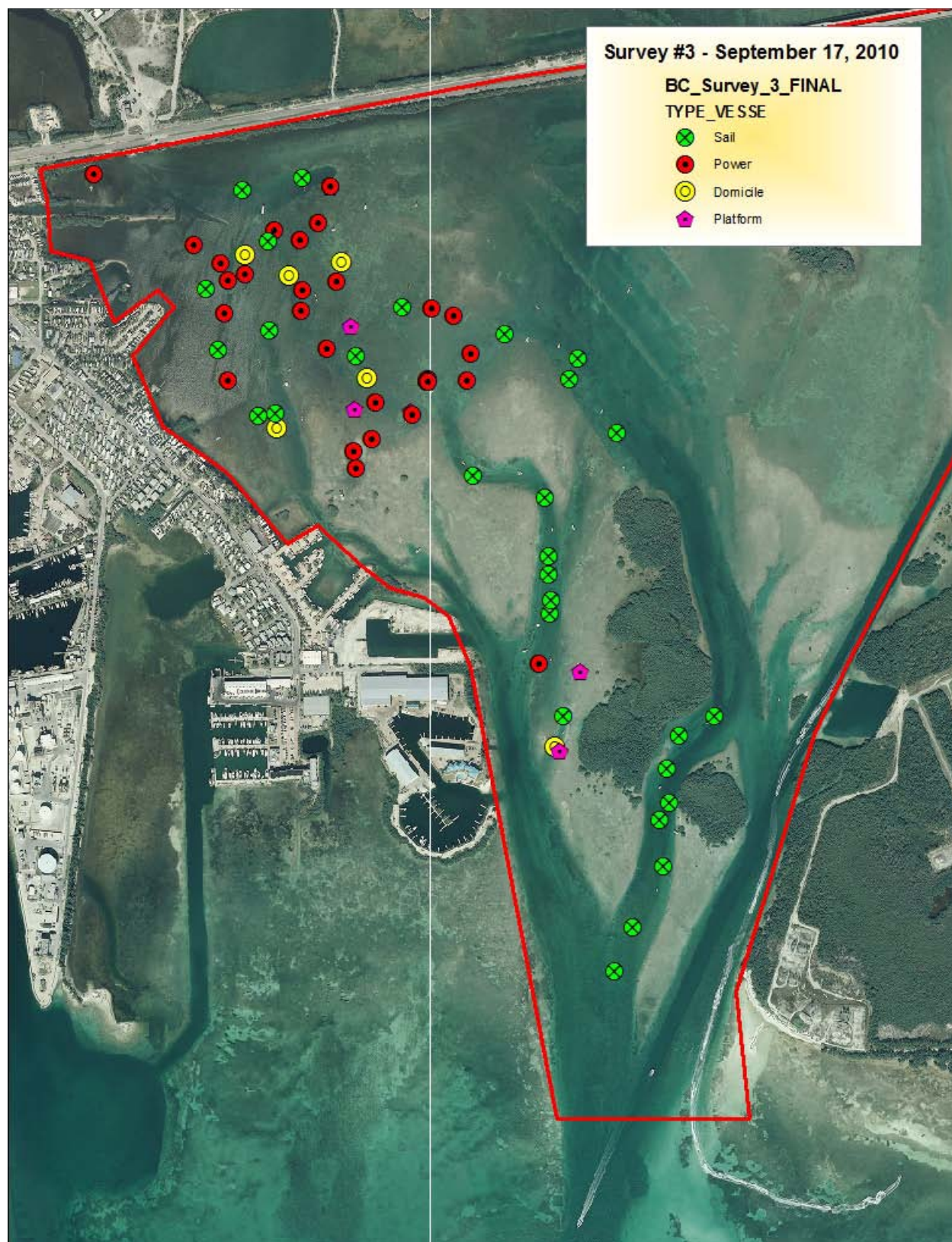


Figure 5. Vessel location and vessel type, Boca Chica Vessel Mooring Survey #3, September 17, 2010.



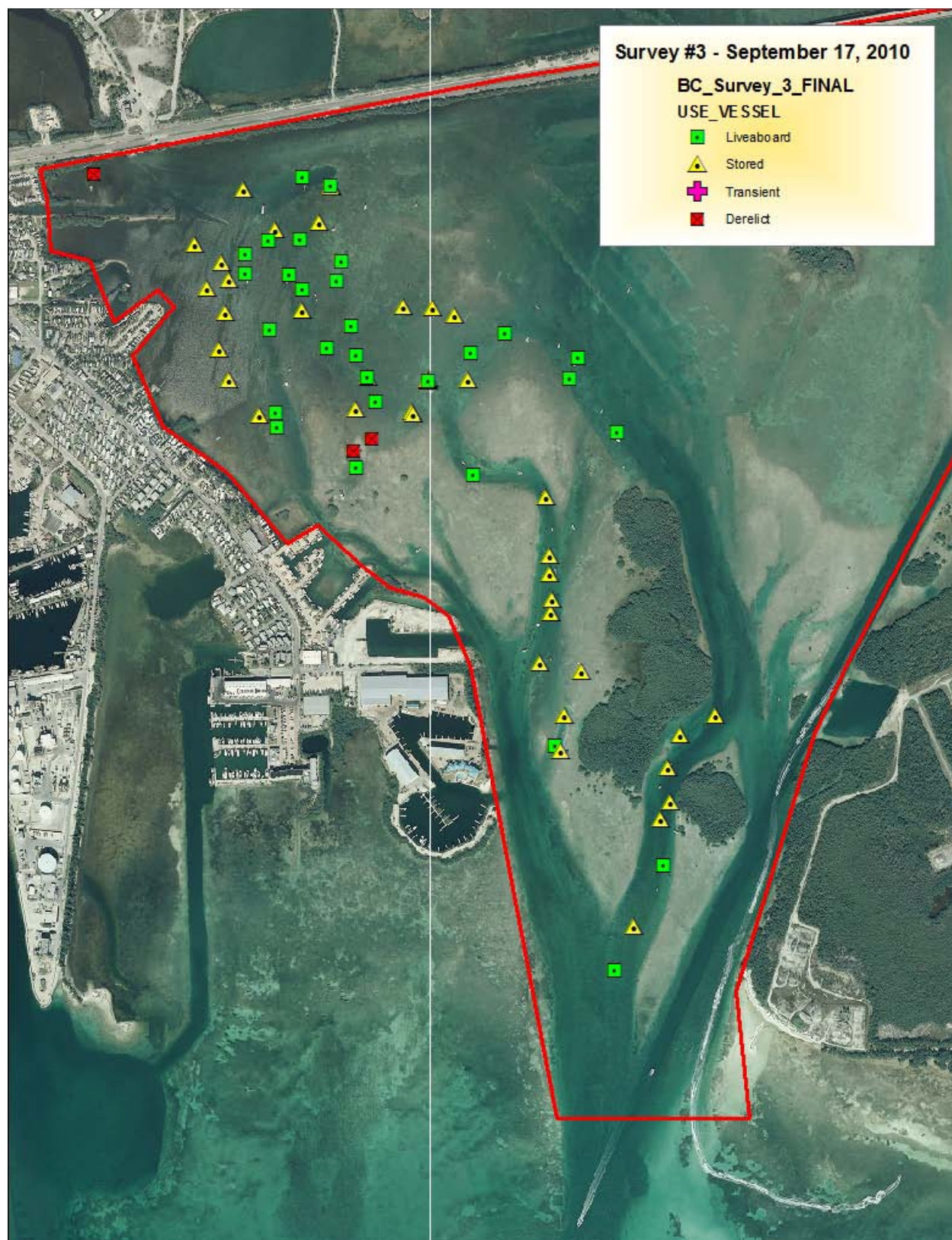


Figure 6. Vessel location and vessel use, Boca Chica Vessel Mooring Survey #3, September 17, 2010.



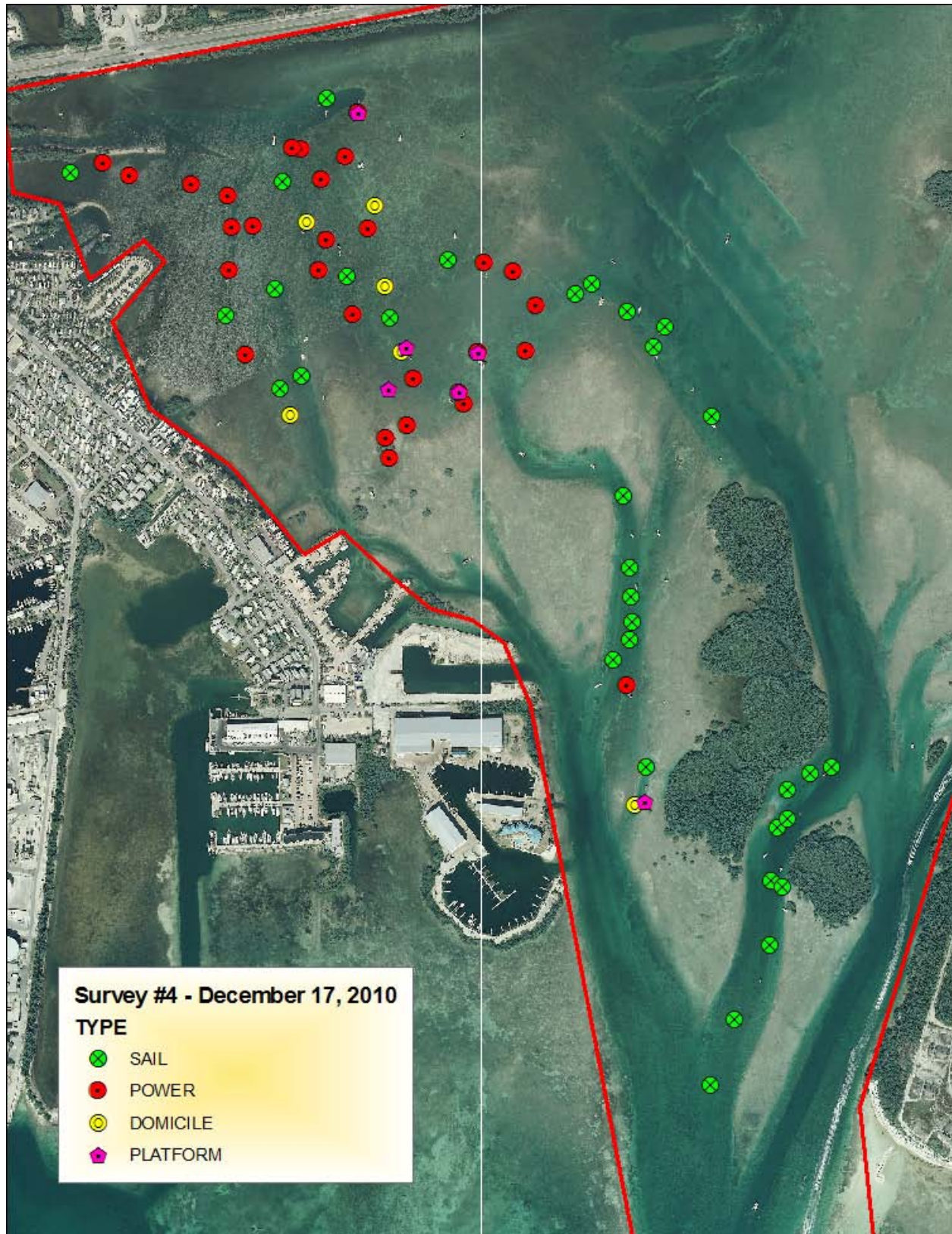


Figure 7. Vessel location and vessel type, Boca Chica Vessel Mooring Survey #4, December 17, 2010.



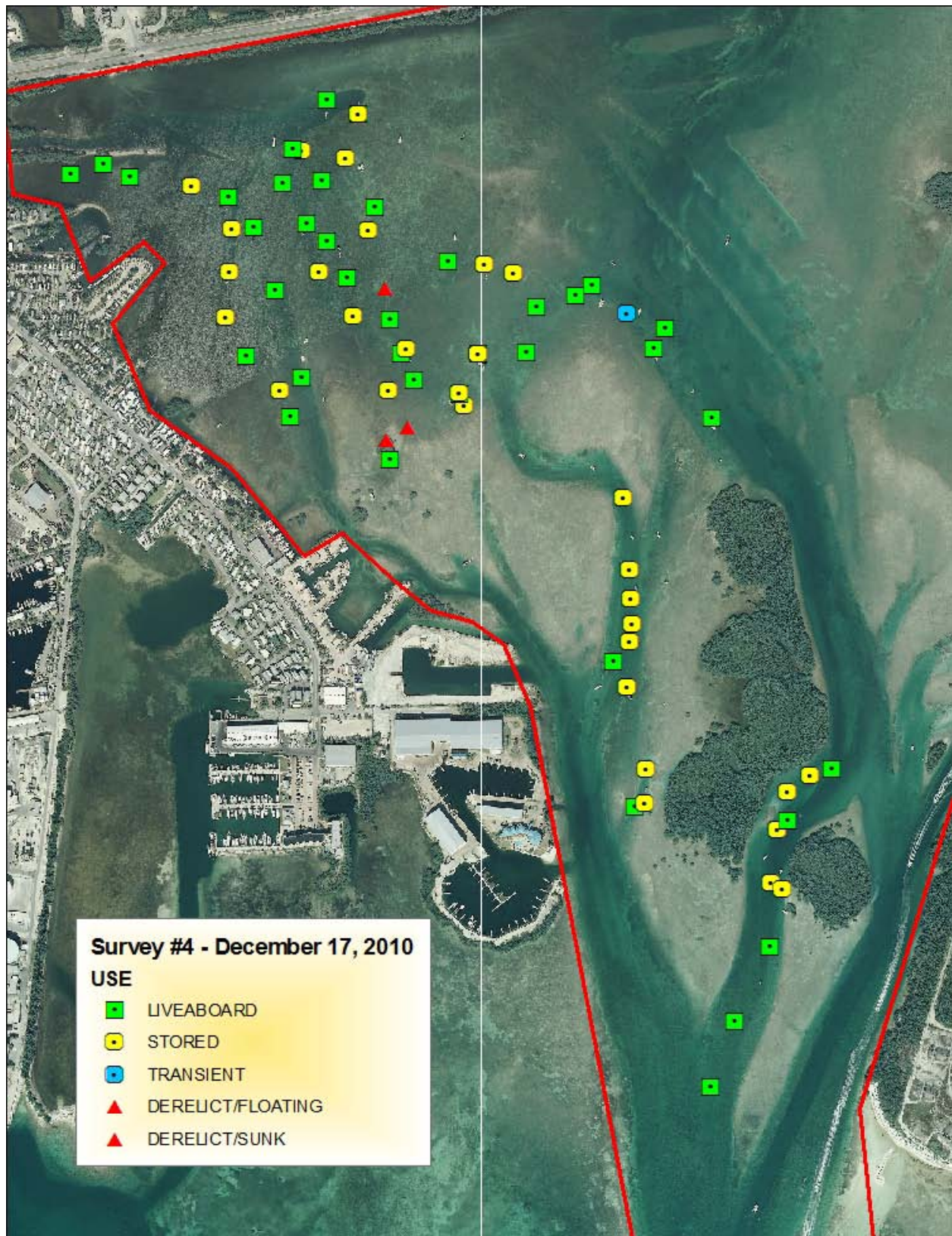


Figure 8. Vessel location and vessel use, Boca Chica Vessel Mooring Survey #4, December 17, 2010.



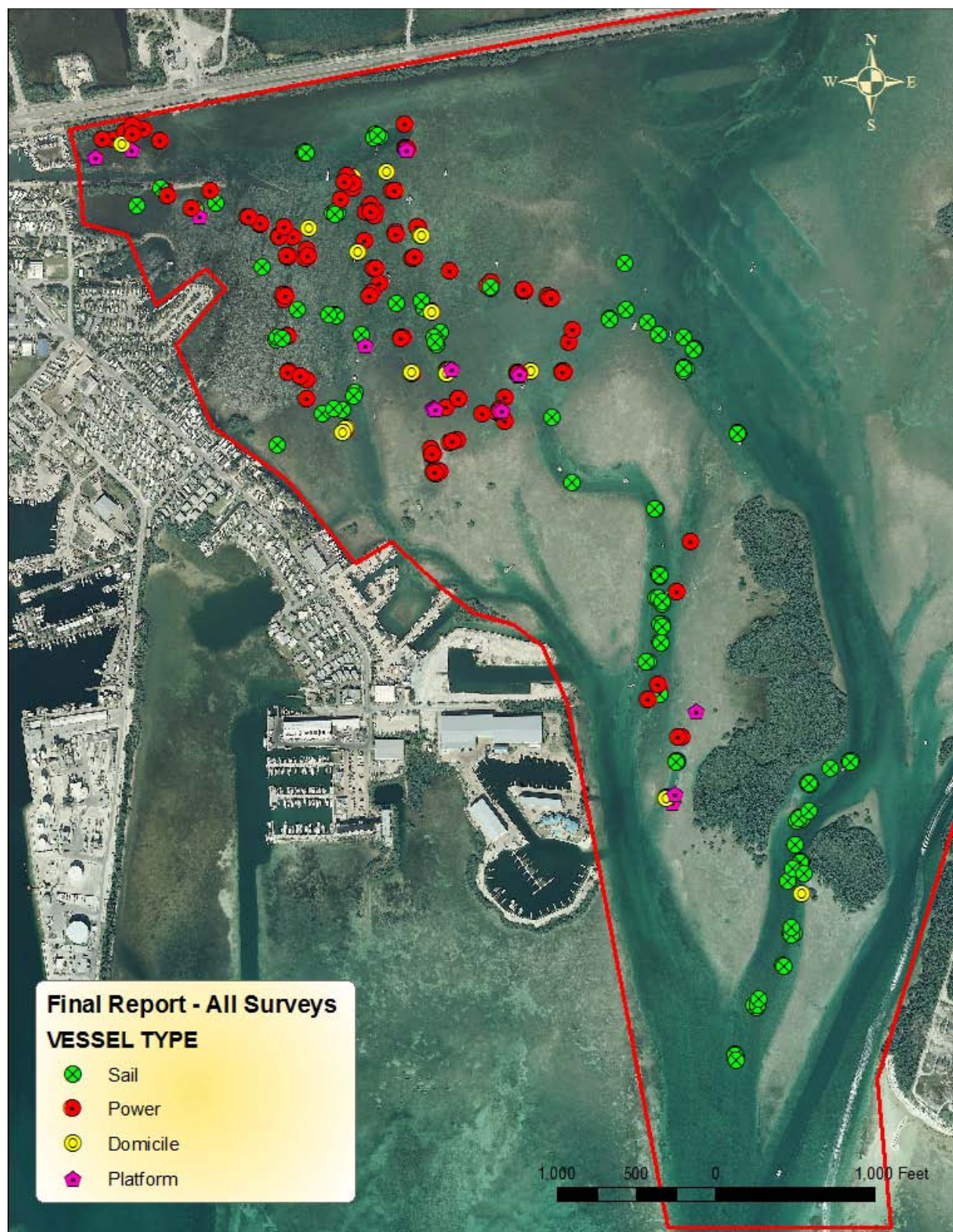


Figure 9. Vessel location and vessel type, Boca Chica Vessel Mooring Survey, all surveys combined.



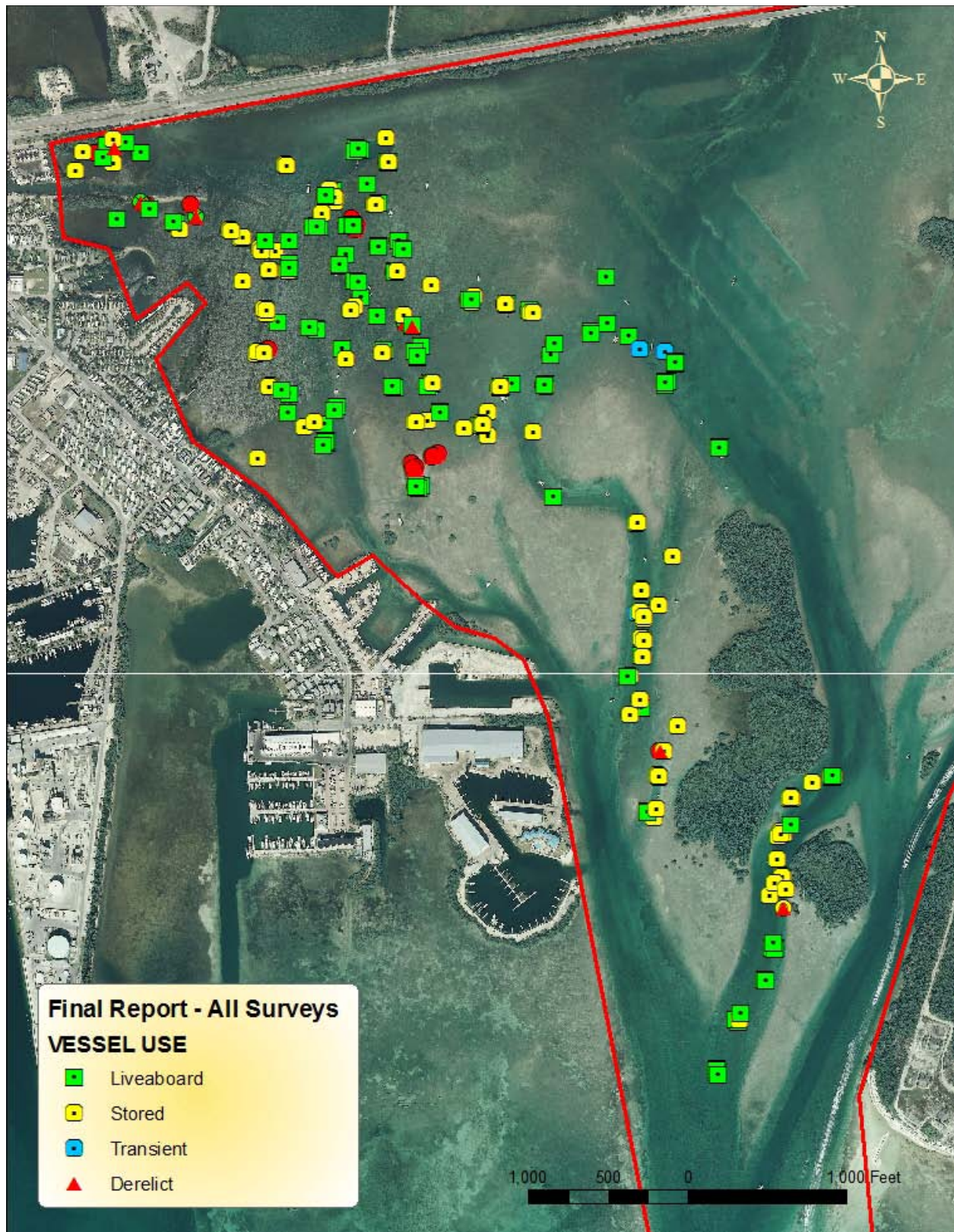


Figure 10. Vessel location and vessel use, Boca Chica Vessel Mooring Survey, all surveys combined.

*Attachment 1 – Reference Photos of Typical  
Vessels and Mooring Devices*





Photo of a stored sailboat. This vessel is not being used as a liveaboard. Seabirds commonly take up residence on stored vessels that are not actively maintained, fouling the vessel with guano.



Photo of a stored powerboat. This vessel is not being used as a liveaboard or actively being used for fishing. The vessel is grounded on a shallow seagrass bed (note boot top well above waterline).



Photo of a stored powerboat being used in support of commercial sponge fishing.



Photo of a stored powerboat being used in to store personal property.





Photo of a typical well-maintained houseboat. The floating platform is moored to the houseboat and functions as an outbuilding that provides storage for personal property.



Photo of a typical well-maintained houseboat.





Photo of a poorly-maintained liveaboard powerboat. Vessels in poor condition typically lack operating propulsion and are at-risk for dereliction.



Photo of a poorly-maintained stored powerboat that is being used as a storage facility to support a commercial sponge fishing operation.



Photo of a conglomeration of vessels that form a liveaboard complex. This complex is consists of Several powerboats and floating platforms.



Photo of a conglomeration of vessels (same as above) that form a liveaboard complex. This complex is referred to as Water World in the mooring database and consists of powerboats and floating platforms.





Photo of a conglomeration of vessels that form a liveaboard complex composed of several powerboats and floating platforms.



Photo of a conglomeration of vessels that form a liveaboard complex composed of several powerboats and floating platforms.





Photo of a floating platform being used for storage. The derelict outboard motor visible in the photo is a likely candidate for a mooring.



Photo of a floating platform being used for storage. This platform stored a mattress throughout the entire survey period.





Photo of a floating platform that is used as a domicile. This vessel was in active use at the beginning of the survey, but was later abandoned.



Photo of a floating platform that is used as a domicile. This vessel was in active use at the beginning of the survey, but was later abandoned. Note the derelict/sunk floating platform moored to this platform.





Photo of a floating platform being constructed.



Photo of a derelict vessel sunk in a shallow seagrass flat. Vessels grounded or sunk in shallow seagrass beds cause a loss of seagrass habitat from shading and scour.





Photo of a derelict vessel sunk in a shallow seagrass flat. Vessels grounded or sunk in shallow seagrass beds cause a loss of seagrass habitat from shading and scour.

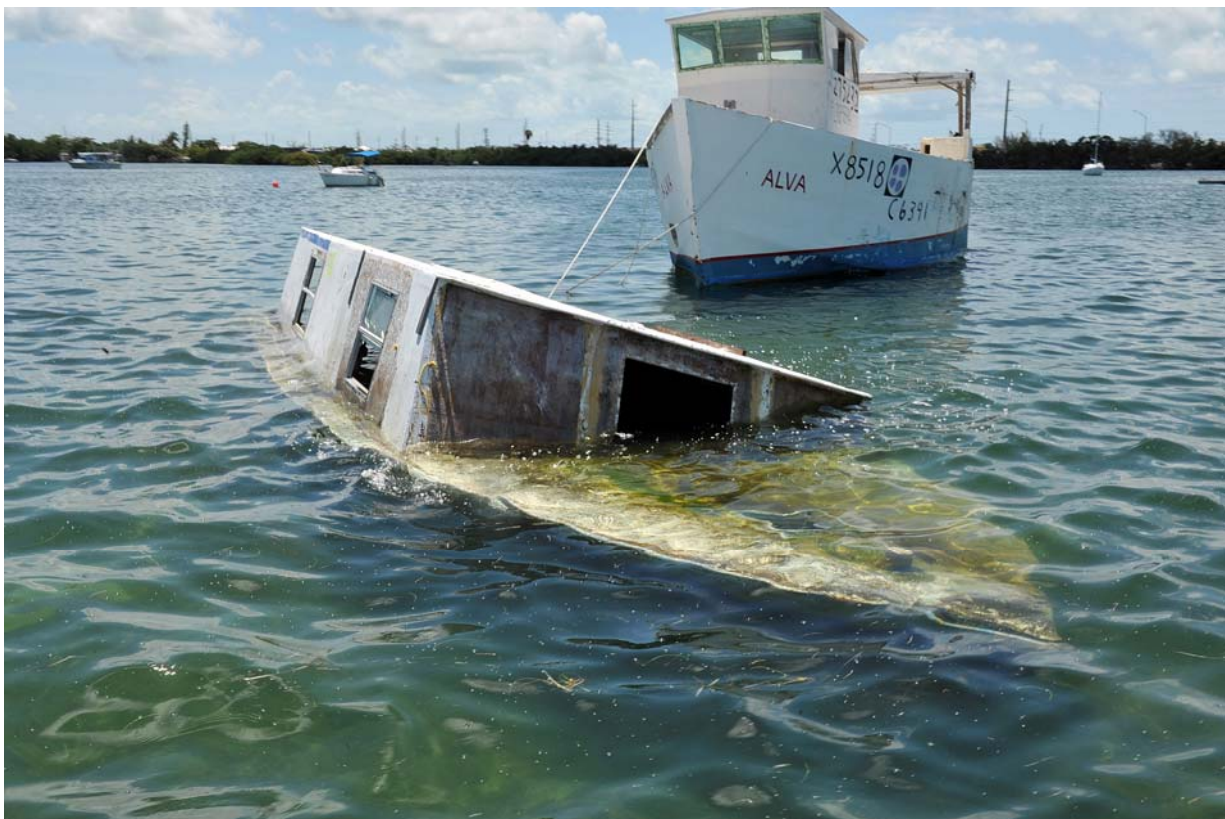


Photo of a derelict vessel sunk in a shallow seagrass flat with a grounded vessel moored to it. Vessels grounded or sunk in shallow seagrass beds cause a loss of seagrass habitat from shading and scour.





Photo of a derelict vessel sunk in a shallow seagrass flat. Vessels grounded or sunk in shallow seagrass beds cause a loss of seagrass habitat from shading and scour. This vessel is a large houseboat.



Photo of a derelict vessel grounded in a mangrove shoreline and shallow seagrass flat. Vessels grounded or sunk in shallow seagrass beds cause a loss of seagrass habitat from shading and scour.



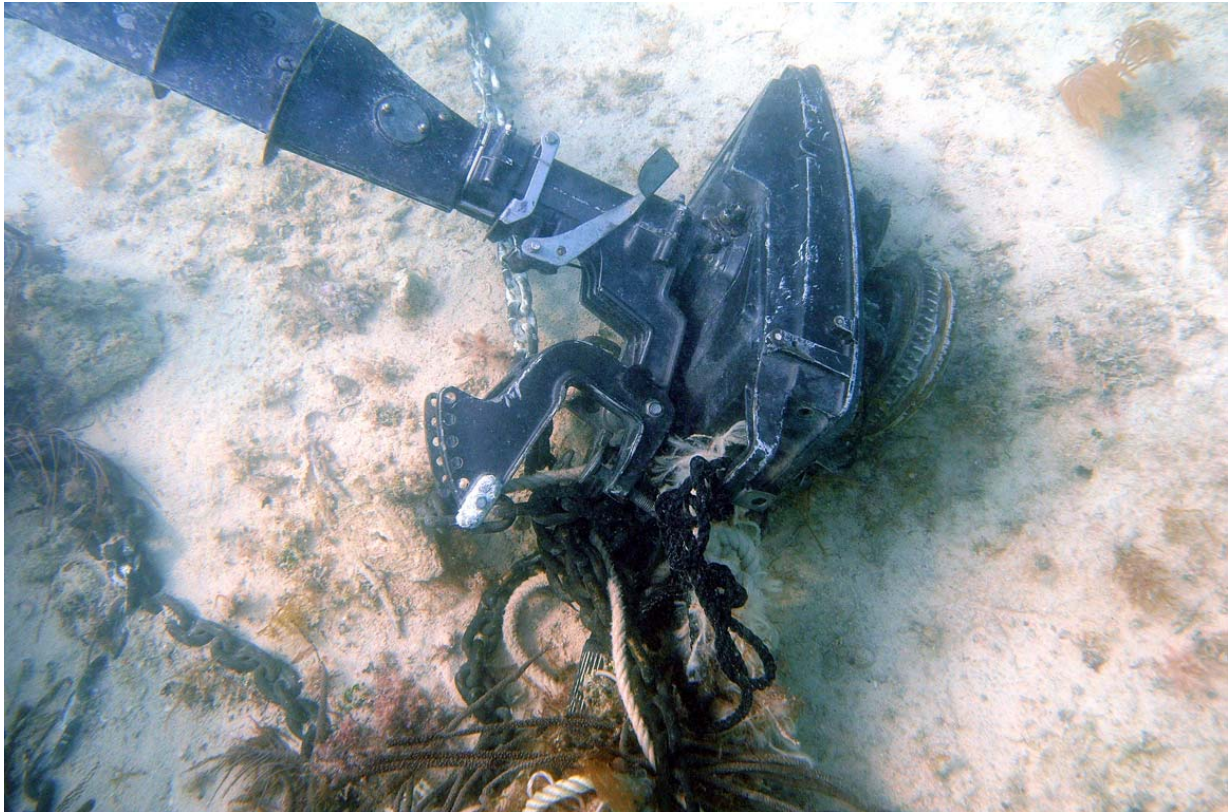


Photo of a typical debris-constructed mooring in hardbottom habitat. Various motors including outboards and large-block vehicular motors were common mooring devices.

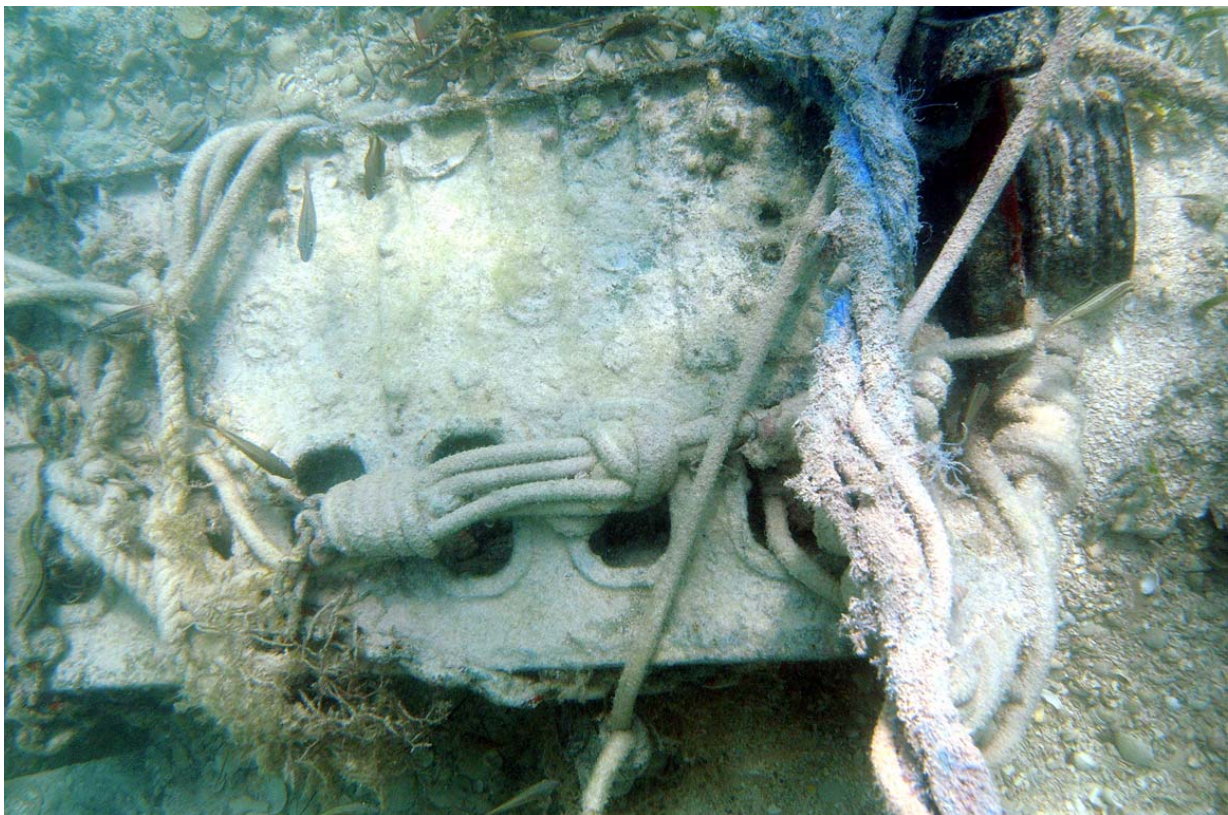


Photo of a typical debris-constructed mooring in hardbottom habitat. Various motors including outboards and large-block vehicular motors were common mooring devices.





Photo of a typical debris-constructed mooring in seagrass habitat. The concrete-filled blue drums is also a common mooring device seen throughout the mooring.

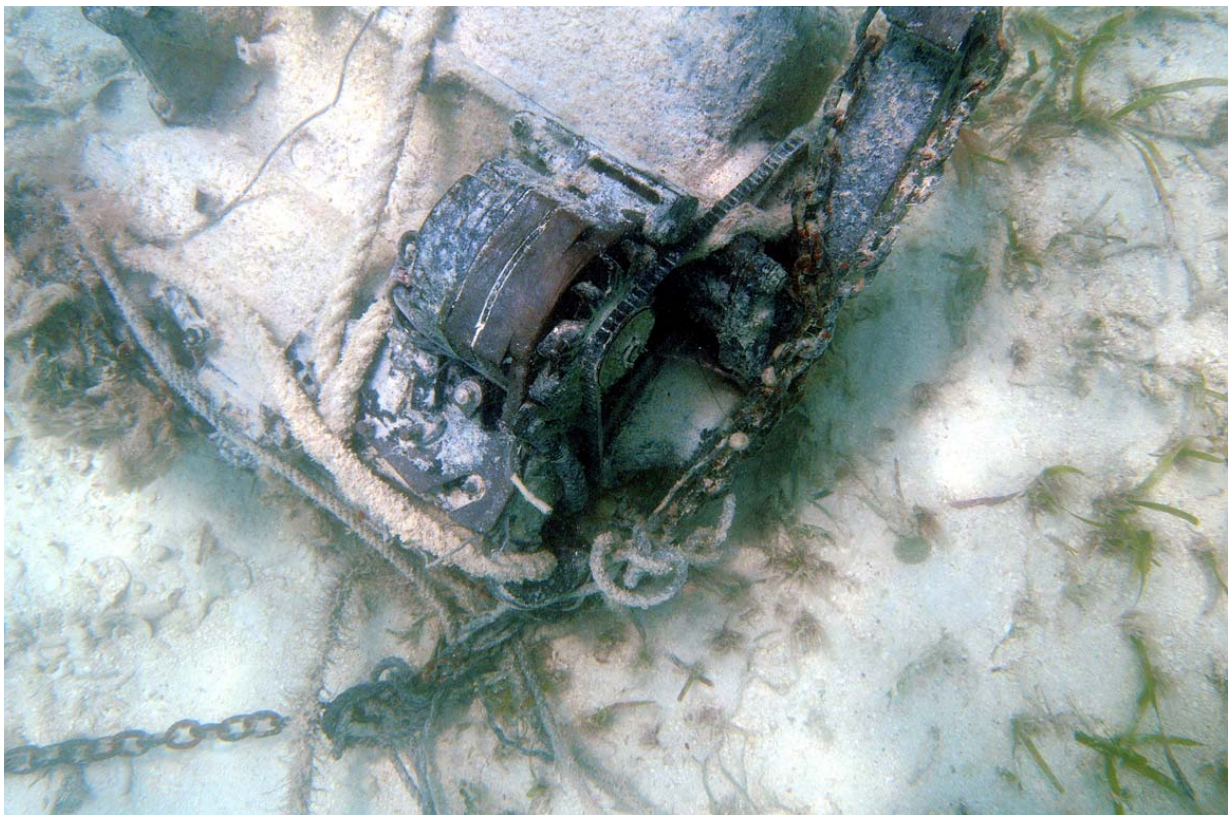


Photo of a typical debris-constructed mooring in seagrass habitat. Various motors including outboards and large-block vehicular motors were common mooring devices.





Photo of a typical debris-constructed mooring composed of portions of a vehicle frame including axels, leaf springs and tires.



Photo of a typical debris-constructed mooring in hardbottom habitat. The concrete-filled blue drums is also a common mooring device seen throughout the mooring.



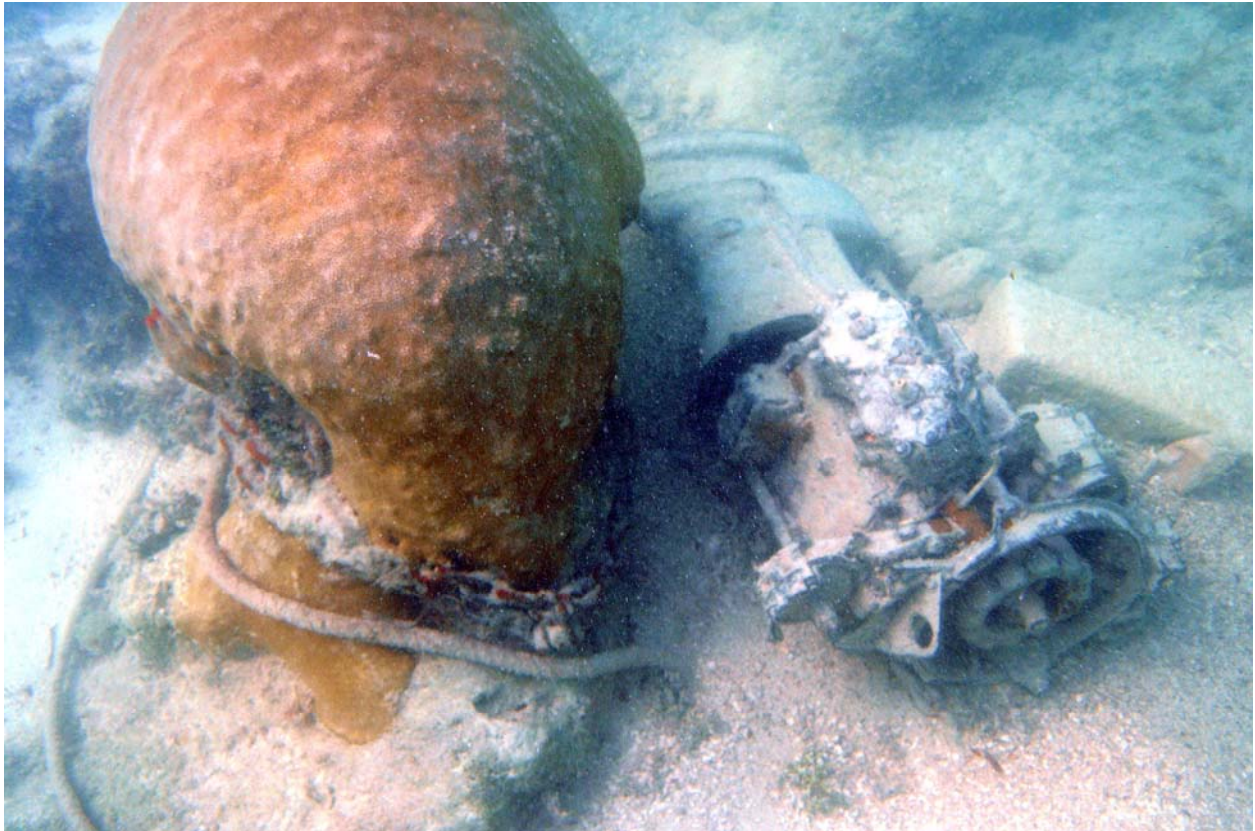


Photo of an outboard motor mooring chained to a large coral head. This mooring was clearly deliberately constructed to include the coral head as the chain is wrapped completely around the coral.



Photo of an outboard motor mooring in dense seagrass habitat. In addition to direct displacement of seagrass habitat, these mooring are prone to shift, resulting in ongoing seagrass damage.

*Attachment 2 – Comprehensive Data for Vessel  
Surveys - March 2010 through December 2011*

DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
9/17/2010	1041688	Key Largo	Power	Stored		9	Melissa Key Largo
12/16/2010	1041688	Key Largo	Power	Stored		7	Melissa Key Largo
3/19/2010	275232		Power	Stored	debris	11	ALVA TRAP BOAT
6/15/2010	277483	Summerland Key	Power	Liveaboard		6	Free Time
9/17/2010	277483	Summerland Key	Power	Liveaboard		6	Free Time
12/16/2010	277483	Summerland Key	Power	Stored		6	Free Time
6/15/2010	308566	LITTLEHAMP UK	Sail	Stored		13	Sjoressa
3/19/2010	309566	LITTLEHAMP UK	Sail	Stored	debris	12	Sjoressa
9/17/2010	309566	LITTLEHAMP UK	Sail	Stored		15	Sjoressa
12/16/2010	309566	LITTLEHAMP UK	Sail	Stored		11	Sjoressa
12/16/2010	al1363sg		Sail	Transient		10	Betty Boop
3/19/2010	AL2052AV		Sail	Derelict	debris	5	SUNK
6/15/2010	Blown Away	New Smyrna Bch	Sail	Liveaboard		8	Blown Away
3/19/2010	Demaris	Key West	Sail	Liveaboard	debris	9	Demaris
6/15/2010	Demaris	Key West	Sail	Liveaboard		11	Demaris
3/19/2010	DO603138		Domicile	Liveaboard	debris	4	large houseboat
6/15/2010	DO603138		Domicile	Liveaboard		5	large houseboat
9/17/2010	DO603138		Domicile	Liveaboard		4	large houseboat, FWC
12/16/2010	DO603138		Domicile	Liveaboard		7	no photo requested
12/16/2010	do681379	St. Pete FL	Sail	Liveaboard		10	liberty
12/16/2010	FL0036pb		Power	Liveaboard		2	bayliner
3/19/2010	FL0083MV		Domicile	Liveaboard		5	Flotilla - main houseboat
6/15/2010	FL0083MV		Domicile	Liveaboard		9	Flotilla - main houseboat
9/17/2010	FL0083MV		Power	Liveaboard		7	Flotilla - main houseboat
12/16/2010	FL0083MV		Domicile	Liveaboard		4	Flotilla - main houseboat
3/19/2010	FL0269LT		Power	Stored	debris	3	JUNK
6/15/2010	FL0269lt		Power	Derelict		5	Sunk powerboat
6/15/2010	FL0275gk		Sail	Stored		12	Crows nest

DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
9/17/2010	FL0275gk		Sail	Stored		11	Crows nest
12/16/2010	FL0275gk		Sail	Stored		11	Crows nest
3/19/2010	FL0351AJ		Power	Stored	debris	7	El Solo
6/15/2010	FL0351AJ		Power	Stored		8	El Solo
9/17/2010	FL0351AJ		Power	Stored		6	El Solo
12/16/2010	FL0351AJ		Power	Stored		6	El Solo
3/19/2010	FL0370NX		Sail	Liveaboard	debris	4	Moon Shadow, no mast
6/15/2010	FL0370NX		Sail	Liveaboard		5	Moon Shadow, no mast
9/17/2010	FL0370NX	Key West	Sail	Liveaboard		9	Moon Shadow, no mast
3/19/2010	FL0405FH		Sail	Derelict	beached	0	DV BEACHED ON BAR
9/17/2010	FL0617cd		Power	Stored		5	20' aquasport
12/16/2010	FL0617cd		Power	Stored		5	20' aquasport
6/15/2010	FL0723jy		Sail	Stored		5	
9/17/2010	FL0723jy		Sail	Stored		4	
12/16/2010	FL0723jy		Sail	Stored		4	rema jean
3/19/2010	FL1046HJ		Sail	Stored	coral head	11	BUSH MON
6/15/2010	FL1046HJ		Sail	Liveaboard		11	BUSH MON
9/17/2010	FL1046HJ		Sail	Stored		11	BUSH MON
12/16/2010	FL1046HJ		Sail	Stored		11	BUSH MON
3/19/2010	FL1098AX		Power	Stored	OB motor	6	SPONGE
6/15/2010	FL1098AX		Power	Liveaboard		6	attached
12/16/2010	FL1098AX		Power	Stored		6	
3/19/2010	FL1116SG		Power	Stored	debris	6	FISH
6/15/2010	FL1116SG		Power	Stored		7	
9/17/2010	FL1116SG		Power	Liveaboard		7	Grey hull
12/16/2010	FL1116SG		Power	Stored		6	
12/16/2010	FL1271lm		Power	Stored		5	
9/17/2010	FL1858hk		Platform	Stored		2	pontoon boat kayak guide
3/19/2010	FL1988MW	Key West	Sail	Stored	debris	13	Balagan

DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
6/15/2010	FL1988MW	Key West	Sail	Stored		13	Balagan
9/17/2010	FL1988MW		Sail	Stored		13	Balagan
12/16/2010	FL1988MW		Sail	Stored		13	Balagan
6/15/2010	FL2588nw		Sail	Liveaboard		7	
9/17/2010	FL2588nw		Sail	Liveaboard		7	blue hull
12/16/2010	FL2588nw		Sail	Liveaboard		7	
6/15/2010	FL2648fg		Platform	Stored		7	sponge
9/17/2010	FL2648fg		Platform	Stored		6	Storage platform junk
12/16/2010	FL2648fg		Platform	Stored		2	condo mess
3/19/2010	FL2789HK	Key West	Sail	Liveaboard	debris	7	
6/15/2010	FL2789HK	Key West	Sail	Liveaboard		8	
9/17/2010	FL2789HK	Key West	Sail	Liveaboard		6	
12/16/2010	FL2789HK		Sail	Liveaboard		6	
6/15/2010	FL303759		Power	Stored		8	condo
3/19/2010	FL3087HY		Power	Liveaboard	debris	18	Bayliner, water world
6/15/2010	FL3087HY		Power	Stored		26	Bayliner, water world
9/17/2010	FL3087HY		Power	Stored		18	Bayliner, water world
12/16/2010	FL3087HY		Power	Liveaboard		25	Bayliner, water world
12/16/2010	FL3109bh		Sail	Stored		2	ibis
3/19/2010	FL3413AL		Power	Stored	debris	5	RAMICITO
6/15/2010	FL3413AL		Power	Stored		8	RAMICITO
3/19/2010	FL3523AE		Domicile	Derelict	debris	12	SUNK HOUSEBOAT
3/19/2010	FL3816GX	BRADENTON	Sail	Liveaboard	OB motors	9	
3/19/2010	FL3823DR	St. Pete FL	Domicile	Liveaboard	debris	5	Houseboat Southern Comfort
6/15/2010	FL3823DR	St. Pete FL	Domicile	Liveaboard		8	Houseboat Southern Comfort
9/17/2010	FL3823DR	St. Pete FL	Domicile	Liveaboard		6	Houseboat Southern Comfort
12/16/2010	FL3823DR	St. Pete FL	Domicile	Liveaboard		6	Houseboat Southern Comfort
6/15/2010	FL3898pA		Power	Derelict		7	Alva
3/19/2010	FL3908GE	Miami	Power	Liveaboard	debris	7	SPONGE



DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
6/15/2010	FL3908GE	Miami	Power	Stored		9	DV - Esther III
3/19/2010	FL3971BF		Power	Liveaboard	debris	18	Waterworld main
6/15/2010	FL3971BF		Power	Liveaboard		26	Waterworld main
9/17/2010	FL3971BF		Power	Liveaboard		18	Waterworld main
12/16/2010	FL3971BF		Power	Liveaboard		25	Waterworld main
3/19/2010	FL4184NB		Power	Stored	debris	8	
6/15/2010	FL4184NB	Key West	Power	Stored		9	
9/17/2010	FL4184NB	Key West	Power	Stored		8	
9/17/2010	FL4270bm		Power	Liveaboard		6	
12/16/2010	FL4270bm		Power	Liveaboard		6	possible transient
3/19/2010	FL4345L		Power	Liveaboard	anchor w.spikes	4	HOUSEBOAT
6/15/2010	FL4345L		Domicile	Liveaboard		4	houseboat
9/17/2010	FL4345L		Domicile	Liveaboard		4	Capt Flint Houseboat
3/19/2010	FL447_N	Boston MA	Sail	Liveaboard	debris	9	Dream Chaser
3/19/2010	FL4678HM		Power	Liveaboard	debris	2	
6/15/2010	FL4678HM		Power	Stored		4	DV Sticker
6/15/2010	FL4774HX		Sail	Liveaboard		10	Marsh Hen
9/17/2010	FL4774HX		Sail	Liveaboard		7	
12/16/2010	FL4774HX		Sail	Liveaboard		6	no photo requested
3/19/2010	FL4779SE		Power	Liveaboard	anchor buried	5	5
6/15/2010	FL4779SE		Power	Liveaboard		7	
9/17/2010	FL4779SE		Power	Liveaboard		8	Blue hull, dingies, sponges
12/16/2010	FL4779SE		Power	Liveaboard		7	blue hull
12/16/2010	FL4981hf		Power	Liveaboard		4	
3/19/2010	FL5_26GH		Domicile	Liveaboard	debris	5	JUNK
6/15/2010	FL5_26GH		Domicile	Liveaboard		5	Houseboat
9/17/2010	FL5_26GH		Domicile	Liveaboard		5	Derelict homemade
12/16/2010	FL5_26GH		Domicile	Derelict		5	
3/19/2010	FL5004CH		Power	Liveaboard	debris	6	

DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
6/15/2010	FL5004CH		Power	Liveaboard		7	
9/17/2010	FL5004CH		Power	Liveaboard		6	
12/16/2010	FL5004CH		Power	Liveaboard		5	
6/15/2010	FL5009hk		Sail	Liveaboard		7	
9/17/2010	FL5009hk		Sail	Liveaboard		6	
12/16/2010	FL5009hk		Sail	Liveaboard		3	on seagrass
3/19/2010	FL5033BF	Key West	Sail	Liveaboard	debris	11	Patty Ann
6/15/2010	FL5033BF	Key West	Sail	Liveaboard		11	Patty Ann
9/17/2010	FL5033bf		Sail	Liveaboard		10	Patty Ann
12/16/2010	FL5033bf	Key West	Sail	Liveaboard		11	Patty Ann
3/19/2010	FL5102KJ		Power	Liveaboard	debris	4	Godspeed Noah's Ark
6/15/2010	FL5102kj		Power	Stored		6	Godspeed Noah's Ark
3/19/2010	FL5140SH	Key West	Power	Liveaboard	debris	6	
6/15/2010	FL5140SH	Key West	Power	Stored		7	sponge
9/17/2010	FL5140SH		Power	Stored		6	with barge prior
12/16/2010	FL5140SH		Power	Liveaboard		6	with Flotilla
9/17/2010	FL5207GM		Power	Stored		7	with Flotilla
12/16/2010	FL5207GM		Power	Stored		6	with Flotilla
3/19/2010	FL53_OBE		Power	Derelict	debris	3	DV
3/19/2010	FL5329SF		Power	Stored	OB motor	4	TRAP
6/15/2010	FL5329SF		Power	Liveaboard		5	C4197 commercial
9/17/2010	FL5329SF		Power	Stored		5	C4197 commercial
12/16/2010	FL5329SF		Power	Stored		4	C4197 commercial
3/19/2010	FL5353GM		Power	Liveaboard	debris	5	
6/15/2010	FL5353GM		Power	Liveaboard		6	
9/17/2010	FL5353GM		Power	Liveaboard		6	
12/16/2010	FL5353GM		Power	Liveaboard		6	
3/19/2010	FL5426FG	Key West	Power	Liveaboard	debris	5	El Melon
6/15/2010	FL5426FG	Key West	Power	Liveaboard		7	El Melon

DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
9/17/2010	FL5426FG	Key West	Power	Liveaboard		6	El Melon
12/16/2010	FL5426FG	Key West	Power	Liveaboard		7	El Melon
6/15/2010	FL5640dj		Sail	Stored		3	grounded in grass
9/17/2010	FL5640dj		Sail	Stored		5	
3/19/2010	FL5687SH		Power	Liveaboard	to sunk boat	6	TIED TO SUNK BOAT
6/15/2010	FL5687SH		Power	Liveaboard		9	Angry residents - no photo
9/17/2010	FL5687SH		Power	Stored		8	comm. sponger
12/16/2010	FL5687SH		Power	Liveaboard		8	
6/15/2010	FL5723fg		Power	Stored		7	sponge
3/19/2010	FL6214LF		Sail	Stored	debris	8	
6/15/2010	FL6214LF		Sail	Stored		11	
9/17/2010	FL6214LF		Sail	Stored		11	
12/16/2010	FL6214LF		Sail	Stored		11	
3/19/2010	FL6489SE		Domicile	Liveaboard	debris	3	Harleigh Rose houseboat
6/15/2010	FL6489SE		Domicile	Liveaboard		6	Harleigh Rose houseboat
9/17/2010	FL6489SE		Domicile	Liveaboard		4	Harleigh Rose houseboat
12/16/2010	FL6489SE		Domicile	Liveaboard		2	Harleigh Rose houseboat
3/19/2010	FL6501CE		Power	Stored	debris	3	TRAP
6/15/2010	FL6501CE		Power	Liveaboard		5	
9/17/2010	FL6501CE		Power	Stored		5	
3/19/2010	FL6842FG		Power	Stored	debris	9	TRAP
6/15/2010	FL6842FG	Key West	Power	Stored		9	Esmerelda
9/17/2010	FL6842FG	Key West	Power	Stored		8	Esmerelda
12/16/2010	FL6842FG		Power	Stored		8	Esmerelda
12/16/2010	FL7042jn		Sail	Liveaboard		12	
12/16/2010	FL7123ce		Sail	Stored		12	Oddisea
3/19/2010	FL7123FP		Sail	Stored	engine	9	
12/16/2010	FL7123FP		Sail	Liveaboard		9	
3/19/2010	FL7156CK		Sail	Stored	debris	12	Dantian



DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
6/15/2010	FL7156CK		Sail	Liveaboard		13	Dantian
9/17/2010	FL7156CK		Sail	Stored		12	Dantian
12/16/2010	FL7156CK		Sail	Liveaboard		12	Dantian
3/19/2010	FL7197SD		Power	Stored	tied mangroves	0	IN MANGROVES
12/16/2010	FL7469ms		Sail	Liveaboard		4	
3/19/2010	FL7556CM		Sail	Stored	debris	9	
6/15/2010	FL7556CM		Sail	Stored		9	Bemi kike
9/17/2010	FL7556CM		Sail	Stored		7	Bemi kike
12/16/2010	FL7556CM		Sail	Stored		6	Bemi kike
3/19/2010	FL7563AV (changed to FL9066PA)		Power	Liveaboard	debris	5	Tin Can
12/16/2010	FL7646hf		Sail	Liveaboard		6	
3/19/2010	FL7913GE		Sail	Stored	debris	11	Quarter Moon
6/15/2010	FL7913GE		Sail	Stored		11	Quarter Moon
9/17/2010	FL7913GE		Sail	Stored		11	Quarter Moon
12/16/2010	FL7913GE		Sail	Stored		12	Quarter Moon
6/15/2010	FL7953cu		Sail	Stored		5	derelict, DV soon
3/19/2010	FL7973EG		Power	Stored	debris	5	with Flotilla
6/15/2010	FL7973EG		Power	Stored		9	with Flotilla
9/17/2010	FL7973EG		Power	Stored		7	with Flotilla
12/16/2010	FL7973EG		Power	Stored		4	with Flotilla
3/19/2010	FL8097NP		Power	Liveaboard	debris	5	with Flotilla
6/15/2010	FL8097NP		Power	Stored		9	with Flotilla
9/17/2010	FL8097NP		Power	Stored		7	with Flotilla
12/16/2010	FL8097NP		Power	Stored		4	with Flotilla
3/19/2010	FL8446cr		Power	Liveaboard	debris	7	
6/15/2010	FL8446cr		Power	Liveaboard		8	
9/17/2010	FL8446cr		Power	Stored		6	
12/16/2010	FL8446cr		Power	Liveaboard		6	angry resident - no photo

DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
3/19/2010	FL8537NP		Power	Liveaboard	wood post	2	Blanca aurora sponger
6/15/2010	FL8537NP		Power	Liveaboard		2	sponge
9/17/2010	FL8537NP		Power	Liveaboard		2	Sponge boat
12/16/2010	FL8537NP		Power	Liveaboard		2	nice sponge boat
12/16/2010	FL8575hk		Power	Stored		7	
6/15/2010	FL8822jh		Sail	Transient		11	
6/15/2010	FL9066pa		Power	Stored		6	Tin Can
9/17/2010	FL9066pa		Power	Stored		4	Tin Can
12/16/2010	FL9066pa		Power	Liveaboard		4	Tin Can
3/19/2010	FL9092NZ	NE MARYLAND	Sail	Liveaboard	debris	8	
6/15/2010	FL9092NZ		Sail	Liveaboard		9	Gonzo's Flying Dog
9/17/2010	FL9092NZ		Sail	Stored		9	Gonzo's Flying Dog
12/16/2010	FL9092NZ		Sail	Liveaboard		8	Gonzo's Flying Dog
3/19/2010	FL9352BF		Power	Liveaboard	debris	3	HOUSEBOAT
6/15/2010	FL9352BF		Domicile	Liveaboard		5	HOUSEBOAT
9/17/2010	FL9352BF		Domicile	Liveaboard		5	HOUSEBOAT
12/16/2010	FL9352BF		Domicile	Liveaboard		5	
3/19/2010	FL9442MC		Sail	Liveaboard	debris	9	Moored to FL3816GX
6/15/2010	FL9442MC		Sail	Liveaboard		11	Anchor on coral
9/17/2010	FL9442MC		Sail	Liveaboard		11	
12/16/2010	FL9442MC		Sail	Liveaboard		10	
3/19/2010	FL9641EK		Power	Stored	anchor	6	
6/15/2010	FL9641EK		Power	Stored		6	
9/17/2010	FL9641EK		Power	Stored		6	
12/16/2010	FL9641EK		Power	Liveaboard		8	
3/19/2010	FL9672JK		Power	Stored	debris	0	SPONGE
6/15/2010	FL9672JK		Power	Stored		5	storage, to houseboat
3/19/2010	FL9686CE		Power	Stored	metal post	4	
3/19/2010	FL9786H		Power	Stored	debris	7	FREE BUFFET

DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
6/15/2010	FL9869cb		Sail	Stored		11	
9/17/2010	FL9869cb		Sail	Stored		11	
12/16/2010	FL9869cb		Sail	Stored		11	
3/19/2010	FL9889DN		Sail	Liveaboard	debris	6	
6/15/2010	FL9889DN		Sail	Liveaboard		8	
9/17/2010	FL9889DN		Sail	Liveaboard		3	angry resident - no photo
12/16/2010	FL9889DN		Sail	Liveaboard		5	
9/17/2010	Ibis	Key West	Sail	Stored		3	Ibis
6/15/2010	Karene	Charleston SC	Sail	Liveaboard		26	
9/17/2010	Karene	Charleston SC	Sail	Liveaboard		18	
12/16/2010	Karene	Charleston SC	Sail	Liveaboard		25	
3/19/2010	Killing Time		Power	Derelict	debris	0	DV, storage, in mangroves
6/15/2010	Killing Time		Power	Derelict		1	DV, storage, mangroves
9/17/2010	Killing Time		Power	Derelict		1	DV, storage of junk
12/16/2010	Killing Time		Power	Derelict		0	in mangroves
3/19/2010	Lions Den		Domicile	Liveaboard	debris	8	Lions Den houseboat
6/15/2010	Lions Den		Domicile	Liveaboard		9	Lions Den houseboat
9/17/2010	Lions Den		Domicile	Liveaboard		6	Lions Den houseboat
12/16/2010	Lions Den		Domicile	Liveaboard		7	Lions Den houseboat
3/19/2010	LOS GATOES	RYE NH	Sail	Transient	anchor in sand	10	CHARTER, transient LA
3/19/2010	Megalops Atlanticus	Key West	Sail	Liveaboard	anchor in sand	13	
6/15/2010	Megalops Atlanticus	Key West	Sail	Liveaboard		14	
9/17/2010	Megalops Atlanticus	Key West	Sail	Liveaboard		15	
12/16/2010	Megalops Atlanticus		Sail	Liveaboard		14	
9/17/2010	Mixed Emotion		Power	Derelict		1	in mangroves at US 1
6/15/2010	NO980707		Sail	Liveaboard		6	
9/17/2010	NO980707		Sail	Stored		5	
12/16/2010	NO980707		Power	Stored		5	
12/16/2010	NO980707		Sail	Liveaboard		5	



DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
3/19/2010	None		Sail	Stored	debris	9	
3/19/2010	None		Power	Stored	debris	6	BIG JUNK
3/19/2010	None	RAINBOW NY	Sail	Liveaboard	debris	9	
3/19/2010	None		Platform	Liveaboard	debris	5	with Flotilla
3/19/2010	None		Power	Liveaboard	debris	5	with Flotilla
3/19/2010	None		Platform	Stored	debris	5	JUNK BARGE
3/19/2010	None		Power	Derelict	debris	1	SUNK
3/19/2010	None		Sail	Liveaboard	debris	6	NO MARKS
3/19/2010	None		Sail	Derelict	debris	6	SUNK
3/19/2010	None	CHARLESTON SC	Sail	Liveaboard	debris	18	
3/19/2010	None		Power	Derelict	debris	6	SUNK BOAT
3/19/2010	None		Power	Derelict	debris	4	SUNK
3/19/2010	None		Sail	Stored	debris	19	
3/19/2010	None		Platform	Stored	debris	4	With Moonshadow
3/19/2010	None		Power	Derelict	beached	0	DV TIED TO SHORE
3/19/2010	None		Power	Derelict	beached	0	DV ON BAR
3/19/2010	None		Platform	Stored	debris	2	STORAGE
3/19/2010	None		Platform	Stored	debris	1	JUNK STORAGE
3/19/2010	None		Platform	Stored		18	storage barge, sinking
6/15/2010	None		Sail	Stored		12	moored to sunk boat
6/15/2010	None		Power	Stored		9	with Flotilla
6/15/2010	None		Power	Stored		6	with liveaboard
6/15/2010	None		Power	Derelict		3	Sunk
6/15/2010	None		Platform	Stored		4	storage, mattress
6/15/2010	None		Platform	Stored		26	part of Water World
6/15/2010	None		Power	Derelict		7	30' sunk
6/15/2010	None		Domicile	Liveaboard		4	tiny houseboat
6/15/2010	None		Sail	Stored		4	
6/15/2010	None		Platform	Stored		5	storage, junk

DATE	VESSEL ID	HAILING PORT	VESSEL TYPE	VESSEL USE	MOORING TYPE	WATER DEPTH	COMMENTS
9/17/2010	None		Sail	Stored		15	unmarked
9/17/2010	None		Sail	Stored		9	moored to sunk boat
9/17/2010	None		Platform	Stored		6	storage barge @ Lions Den
9/17/2010	None		Platform	Stored		3	matress storage barge
9/17/2010	None		Platform	Stored		6	barge with S. Comfort
9/17/2010	None		Sail	Stored		21	GENERIC SAILBOAT
9/17/2010	None		Power	Stored		8	commercial, ID removed
9/17/2010	None		Platform	Stored		7	with Flotilla
9/17/2010	None		Power	Derelict		0	Sunk 18' powerboat hull
9/17/2010	None		Platform	Stored		18	Storage barge, at risk
12/16/2010	None		Platform	Stored		5	with lions den
12/16/2010	None		Sail	Stored		14	unmarked
12/16/2010	None		Sail	Stored		11	moored to sunk boat
12/16/2010	None		Platform	Stored		3	matress barge
12/16/2010	None		Platform	Stored		6	with southern com.
12/16/2010	None		Platform	Stored		25	waterworld
12/16/2010	None		Platform	Stored		4	with Flotilla
12/16/2010	None		Power	Derelict		2	sunk
6/15/2010	Rainbow	Rainbow NY	Sail	Liveaboard		9	
9/17/2010	Rainbow	Rainbow NY	Sail	Liveaboard		7	
12/16/2010	Rainbow	Rainbow NY	Sail	Liveaboard		9	
3/19/2010	SHAWABADAA	Key West	Sail	Stored	debris	13	
3/19/2010	Skinnydipper	St. Petersburg	Sail	Liveaboard	debris	9	
6/15/2010	Skinnydipper	St. Petersburg	Sail	Liveaboard		13	
9/17/2010	Skinnydipper	St. Petersburg	Sail	Liveaboard		14	
12/16/2010	Skinnydipper	St. Petersburg	Sail	Liveaboard		13	